



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/070,379	03/06/2002	Takashi Shimada	Q68419	2812
7590	07/14/2004		EXAMINER	
Sughrue Mion 2100 Pennsylvania Avenue NW Washington, DC 20037-3213			SAINT SURIN, JACQUES M	
			ART UNIT	PAPER NUMBER
			2856	

DATE MAILED: 07/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/070,379	Applicant(s) SHIMADA ET AL.	
	Examiner Jacques M Saint-Surin	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 14, 17 and 25-27 is/are rejected.
- 7) ☒ Claim(s) 15-16 and 18-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is responsive to the response of 03/04/04.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

3. Claims 14, 17 and 25-27 are rejected under 35 U.S.C. 103 as being unpatentable over Shimada et al. (US Patent 5,612,495) in view of Beer (US Patent 4,599,898).

Regarding claim 14, Shimada et al. ('495) discloses a structure inspection apparatus (non-destructive examination device, see: Fig. 2) comprising:

a vibration unit for generating an elastic wave in a measuring object of a concrete structure (reference number 9 denotes a vibration exciter device for receiving the amplified excitation current as an output signal from the power amplifier 8 and generating an elastic wave, and vibrating the examination target 2 with the elastic wave, see: col. 5, lines 37-42);

a vibration detector adapted to be placed in contact with a surface of said measuring object (2) for detecting a component in a predetermined frequency range of an elastic vibration generated on the surface of said measuring object by said vibration unit (Fig. 2 shows response detector 3 is a sensor or an acceleration sensor, a displacement sensor, see: col. 5, lines 46-48; also in Figs. 3a and 3b it is shown that the response detector device 3 is connected to the examination targets 12a and 12b as the models to be examined by the non-destructive examination device 20, see: col. 5, lines 59-62). However, Shimada does not disclose a display device for displaying a maximum amplitude of an output signal of said vibration detector. Beer discloses detector 11

Art Unit: 2856

detects vibratory movements of maximum amplitude and the output of the signal comparing stage then transmits a signal to a digital display unit 13, see: col. 4, lines 15-21. It would have been obvious to one having ordinary skill in the art at the time of the invention to use in Shimada the display of Beer because the digital display unit constitute a means for recording the information pertaining to that parameter which is indicative of its quality thereby making the above combination more effective.

Regarding claim 17, Shimada et al. ('495) discloses a magnetic field is generated around the excitation coil 11; the magnetic strain is caused in the magneto striction vibrator 10 in accordance with the magnitude of the magnetic field, see: col. 38-42.

Regarding claims 25 and 27, Shimada et al. ('495) discloses it can be operated to drive the magneto striction vibrator 10 of in tens cm in length with a several kw by using several KHz; specifically, in this case, the vibration of an optional frequency range can be generated by changing the shape of the magneto striction vibrator 10.

Regarding claim 26, it is a method claim that recites the steps for performing the functions of the apparatus of claim 14. As discussed above, it is rejected for the reasons set forth for that claim. In addition, Shimada et al. ('495) discloses Fig. 5 shows the response waveform of the examination target model 12b in a case where there is a circular defect 13 in the examination target model 12b; in this case, the reflected wave T2 from the circular defect 13 is apparently shown in FIG. 5; the position of the circular defect 13 from the end portion of the examination target model 12b is 29.9 cm which is calculated based on the propagation speed and the delay time of the vibration by the vibration exciter device 9, see: col. 7, lines 49-58). Furthermore, Shimada discloses the signal processing device processes the response signal from

Art Unit: 2856

the response detector to obtain the required detection data; accordingly, the magnitude, the frequency, and the waveform of the vibration to be added to the examination target can be controlled with desired values, so that a constant magnitude force of the vibration can be added to the examination target in order to obtain a vibration excitor result with a high accuracy, see: col. 10, lines23-30.

Response to Arguments

4. Applicant's arguments with respect to claims 14-27 have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

5. Claims 15-16 and 18-24 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacques M Saint-Surin whose telephone number is (703) 308-3698. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (703) 305-4705. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7724 for After Final communications.

Art Unit: 2856

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 0956.



Jacques M. Saint-Surin
June 29, 2004

HELEN KWOK
PRIMARY EXAMINER

